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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,160	05/23/2007	Kazutomi Oka	I-245 (NTR1473)	1790
802	7590	09/28/2009	EXAMINER	
PATENTTM.US			TAKEUCHI, YOSHITOSHI	
P. O. BOX 82788			ART UNIT	PAPER NUMBER
PORLTAND, OR 97282-0788			1793	
		MAIL DATE		DELIVERY MODE
		09/28/2009		PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/598,160	OKA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	YOSHITOSHI TAKEUCHI	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 June 2009.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.  
 4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-18, 21 and 22 is/are rejected.  
 7) Claim(s) 19 and 20 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 18 August 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

1. Claims 1-22 are presented for examination, wherein claims 1-13 are withdrawn as nonelected.

### ***Election/Restrictions***

2. Applicant's election of claims 14-22 in the reply filed on June 11, 2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Information Disclosure Statement***

3. The crossed out references of the August 18, 2006 IDS were not considered because an English abstract was not provided.

### ***Means Plus Function 35 USC § 112 Sixth paragraph***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Regarding claims **14-22**, the word "means" is preceded by the word(s) "delivery" "middle-lifting" and "end-lifting" to recite a claim element as a means for performing a specified function. These terms have been interpreted as follows:
  - a. "delivery means" (e.g. claim 14) is in proper means plus function format and is defined in the specification at the third full paragraph of page 9 and item 40 on Figure 2.
  - b. "middle-lifting means" (e.g. claim 16) is in proper means plus function format and is defined in the specification at the third full paragraph of page 9 and item 50 on Figure 2.

c. “end-lifting means” (e.g. claim 16) is in proper means plus function format and is defined in the specification at the third full paragraph of page 9 plus items 60 and 70 on Figure 2.

***Allowable Subject Matter***

6. Claims **19-20** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. No art of record teaches the instantly claimed delivery means, where the end-lifting means and middle-lifting means are configured such that one end-lifting means is inclined to place the one end-supporting member at a level higher than the other end-supporting member.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 14-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukagoshi et al (JP 2000-017325).

d. Regarding claim 14, Tsukagoshi teaches a heating apparatus, comprising a delivery means for delivering a helix-shaped coiled workpiece by rolling (claim 1, where a “helix-shaped coiled” workpiece is a “circular section” workpiece), and a heating means for heating the coiled workpiece being delivered by the delivery means.

Tsukagoshi does not expressly teach the heating to be induction heating.

The examiner takes official notice that induction heating would be performed to speed up the heating of a part. As a result, it would have been obvious to a person of ordinary skill at the time of the invention to use an induction heater to heat in the method of Tsukagoshi in order to quickly heat the moving parts.

e. Regarding claim 15, Tsukagoshi teaches the apparatus of claim 14, wherein the delivery means delivers the coiled workpiece by rolling by rotation in direction of the periphery thereof (claim 1 and Drawing 2).

f. Regarding claims 16-17, Tsukagoshi teaches the apparatus of claim 15, wherein the delivery means comprises a lifting means having ridges at a prescribed pitch along the delivery path for supporting the coiled workpiece upward at a portion of the coiled workpiece and for lifting vertically the coiled workpiece (Drawing 2 and Description of Drawings), where the lifting means have ridges at prescribed pitches along the delivery path for supporting the cylindrical workpiece. The delivery means laterally move the cylindrical material and place it onto a stationary skid, permitting the delivery means to return to its earlier position (Drawing 5).

Tsukagoshi does not expressly teach multiple sets of lifting means used in alternating fashion. However, mere duplication of parts has no patentable significance unless a new and unexpected result is produced. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). See also MPEP § 2144.04(VI)(B). As a result, it would have been obvious to a person of ordinary skill at the time of the invention to include a middle lifting means that supports the cylindrical workpiece at a lengthwise middle portion of the cylindrical workpiece.

Alternatively it would have been obvious to a person of ordinary skill at the time of the invention to use multiple lifting means in order to reduce the wear on the machinery, improving the mean time before failure (MTBF).

Tsukagoshi does not teach the ridges of the middle-lifting means and the ridges of the end lifting means being placed alternately. However, it was well known at the time of the invention to place the ridges of the middle-lifting means and the ridges of the end lifting in an alternating fashion, where one lifting means would be in motion, while the

other is at rest, to reduce the wear of each component and also increases the maximum speed a cylindrical workpiece could be processed. As a result, it would have been obvious to a person of ordinary skill at the time of the invention to use multiple lifting means of Tsukagoshi and configure them in alternating fashion in order to reduce the wear of each component, increasing the MTBF and also to increase the maximum potential speed a cylindrical workpiece could be processed.

g. Regarding claim **18**, Tsukagoshi suggests the apparatus of claim 17, wherein said delivery means contains slanted faces, over which the cylindrical materials rolls and falls by its own weight, rotating only a predetermined angle down said slanted face (claim 1 and Drawing 2).

h. Regarding claim **21**, Tsukagoshi teaches the apparatus of claim 14, wherein skids are provided that do not touch the cylindrical workpiece (¶0015-16), implying the cylindrical workpiece can roll without touching the skids.

Tsukagoshi does not teach the side walls rise at the edges in the width direction of the delivery path, However, a slanted skid wall would have been obvious to a person of ordinary skill in the art at the time of the invention since Tsukagoshi teaches skids that do not touch the cylindrical workpiece. As a result, it would have been obvious to a person of ordinary skill at the time of the invention to make the skid walls of Tsukagoshi with slanted walls in order to avoid contact with the cylindrical workpiece, as taught by Tsukagoshi.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukagoshi et al (JP 2000-017325) in view of Brunko (US 3,779,817).

a. Tsukagoshi teaches the apparatus of claim 14, but does not expressly teach following the heating with a quenching vessel.

Brunko teaches manufacturing tubes with a walking beam furnace followed by a quenching vessel (2:42-49).

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSHITOSHI TAKEUCHI whose telephone number is (571) 270-5828. The examiner can normally be reached on Monday-Thursday 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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1793

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Examiner, Art Unit 1793